

1/2 .023 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--STATISTICAL ANALYSIS OF THE REMOTE RESULTS OF TREATMENT OF PATIENTS
WITH MIXED TUMORS OF THE PAROTID GLAND -U-
AUTHOR--DARYALOVA, S.L., KUNIN, P.YE.
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PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101743

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHOICE OF OPTIMAL METHODS OF TREATING MIXED TUMORS OF THE PAROTID SALIVARY GLAND UP TILL THE PRESENT TIME REMAINS A MOOT QUESTION. THE AUTHORS CONDUCTED A COMPARATIVE ANALYSIS OF THE REMOTE RESULTS OF OPERATIVE AND COMBINED TREATMENT OF 99 PATIENTS WITH THESE NEOPLASMS. USE WAS MADE OF MATHEMATICAL ANALYSIS OF THE SURVIVAL OF PATIENTS, BASED ON THE SUPPOSITION THAT THE NUMBER OF PATIENTS ALIVE AS A FUNCTION OF TIME REPRESENTS A SUM OF SOME CONSTANT AND RECEDING EXPONENT. BY MEANS OF MATHEMATICAL ANALYSIS IS WAS ESTABLISHED THAT AFTER OPERATIVE TREATMENT OF MIXED TUMORS THERE WOULD BE NO RELAPSES IN 48 PER CENT AND AFTER COMBINED THERAPY IN 70 PERCENT OF CASES. IN THE SAME INSTANCES IF THE RELAPSES OCCUR, THEY WOULD DEVELOP IN ONE HALF OF PATIENTS SUBJECTED TO OPERATIVE TREATMENT IN 1.6 YEARS, WHEREAS AFTER COMBINED TREATMENT AFTER 7.7 YEARS. THUS, ANOTHER PROOF WAS OBTAINED OF THE ADVANTAGES OF THE COMBINED METHOD OF TREATING MIXED TUMORS OF THE PAROTID GLAND OVER THE OPERATIVE TECHNIQUE.

UNCLASSIFIED

Radiation Chemistry

USSR

UDC 678.675'126.019.3:538.16

FURMAN, YE. G., ABRAMOVA, T. M., DAR'YEVA, E. P., SPIRINA, I. A., FOMENKO, A. S.,

"Radiation-Chemical Transformations of Polycaproamide in the Presence of Secondary Aromatic Amines"

Moscow, Plasticheskiye Massy, No 1, Jan 72, pp 12-15

Abstract: The paper presents the results of a study of the effect which esters of 4-hydroxydiphenylamine and certain other secondary aromatic amines, as well as substituted phenols have on process of radiation and radiation-oxidation destruction of polycaproamide. Seventeen of these additives were studied in quantities of 0.03 mole/kg. Studies were made of the influence of the additives on accumulation of free radicals, gas release, fragmentation of the polymer chain during radiolysis and radiation oxidation of polycaproamide, as well as their effect on accumulation of peroxide and carboxyl compounds as a function of temperature and concentration of the additive accompanying radiation oxidation of the polymer. The electron paramagnetic resonance method was used to determine the structure and stability of the radicals formed when secondary aromatic amines interact with the peroxide radicals which arise during radiation oxidation of the polycaproamide and its low- $1/2$

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FURMAN, YE. G., et al., *Plasticheskiye Massy*, No 1, Jan 72, pp 12-15

molecular analog -- N-butylpropionamide. It is found that secondary arylamines have a protective effect during radiation oxidation of polyamides, and that this effect is due to the interaction between peroxide radicals and amines, resulting in the breaking of chains and leading to stable nitrate radicals instead of reactive peroxide radicals. The authors thank S. I. Burmistrov for furnishing some of the specimens. Five figures, two tables, bibliography of eleven titles.

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AA0043294

DASHCHENKO I.P. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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239408 CONTROL CIRCUIT FOR SERIES MOTORS. The synchronisation module (4) consisting of generator (1) and synchronisation triggers (2 & 3) supply pulses to the summators (5 & 11). The summator (11) has a circuit of a critical state corresponding to its overflow. The gates (6) control the null potentials of the code in each

step of conversion. The '1' pulses are transported through all stages by the register gates (8). The post-digital read-out of the input to the output triggers (12) is done on the vertical lines (14) and the horizontal lines (15). The programme pulses are retained by the memory core built on ferrite rings (16). The command pulses are applied to the blocking input of the triggers (12) from the 'OR' circuit (10) of the summator (11).

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USSR

GANIYEV, M. K., ASKEROV, A. A., MIRZA-ZADE, S. R., and DASHDAMTROV, D. M.

Pasterellilz (Pasteurellosis), Baku, "ELM," 1970, 268 pp

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USSR

UDC 532.6:547.42

GLUZMAN, M. Kh., DASHEVSKAYA, B. I., and ZASLAVSKAYA, R. G., Khar'kov Scientific-Research and Chemical-Pharmaceutical Institute

"A Synthesis and Study of the Surfactant Properties of Monoethylpolyethyleneglycol Esters of Aliphatic Acids"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 167-171

Abstract: The ethoxylated derivatives of certain classes of organic compounds are very valuable in that the length of the hydrophilic portion of the molecule can be varied to produce desired properties, the substances are nontoxic, noncorrosive and chemically inert, and the raw material is inexpensive. The present study was made to develop a method of synthesis for an homologous series of fatty acid esters, and to determine their properties.

Various fatty acids (valeric, caproic, enanthic, capric, lauric, palmitic, stearic and oleic) were esterified with monoethylpolyethyleneglycols, various degrees of polymerization (10, 20, 30 and 40) of the samples being studied to assure a basis for comparison of properties. It was found that the surface-active properties of these monoethyleneglycol esters, in the case of those whose hydrophobic portion contains 12, 16 and 18 carbon atoms,

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GLUZMAN, M. Kh., et al., Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 167-171

are not subject to the Traube rule, since they are crosslinked with water to form reticular aggregates. Data obtained on the hydrophilic-lipophilic balance indicate that most of these compounds might be used as emulsifiers and as solubilizers.

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1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THEORY OF EXCITATION TRANSFER IN COLLISIONS BETWEEN ALKALI ATOMS,
II. DISSIMILAR PARTNERS -U-
AUTHOR-(04)-DASHEVSKAYA, E.I., NIKITIN, E.E., VORONIN, A.I., ZEMBEKOV,
A.A.
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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118791

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POSSIBLE MECHANISMS ARE CONSIDERED FOR THE TRANSFER OF ELECTRONIC EXCITATION ENERGY IN COLLISIONS BETWEEN AN EXCITED ALKALI ATOM M SUBA SEXTILE (PRIME2 P SUBJ) AND AN UNEXICTED ATOM M SUBB (PRIME2 S SUBONE HALF). A DIPOLE DIPOLE INTERACTION WHICH IS RESPONSIBLE FOR THE TRANSFER OF ELECTRONIC EXCITATION ENERGY IN COLLISIONS BETWEEN IDENTICAL PARTNERS (M SUBA EQUALS M SUBB) IS NOT SUFFICIENT TO EXPLAIN THE OBSD. MAGNITUDES OF THE CROSS SECTIONS AND THEREFORE, THE EXCHANGE INTERACTION CAN NO LONGER BE NEGLECTED. IF THE EXCHANGE INTERACTION IS TAKEN INTO ACCOUNT, THERE ARE REGIONS OF NONADIABATICITY IN THE ENERGY DIAGRAM, WHICH ARE PROBABLY RESPONSIBLE FOR THE CHANGE IN THE ELECTRONIC ENERGY STATES OF THE COLLISION PARTNERS. THE CALCD. CROSS SECTIONS ARE COMPARED WITH EXPTL. VALUES. FAILITY: INST. TERR. MAGN., IONOS. RADIO WAVE PROPAGATION, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 591.51

KRUSHINSKIY, L. V., ~~DASHEVSKIY, R. A.~~, KRUSHINSKAYA, N. L., and DMITRIYEVA, I. L., Moscow State University imeni M. V. Lomonosov, Institute of the Biology of Development, Academy of Sciences USSR, Moscow

"Study of the Capacity of Tursiops truncatus (Montagu) Dolphins to Operate With the Empirical Dimension of Figures"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 3, 1972, pp 755-758

Abstract: A brief survey of studies of the various capacities of dolphins for orientation and communication, including reasoning abilities, is presented, and experiments are described which were performed on two young adult females (Tursiops truncatus) which had been in captivity since 1958 and were quite tame. Both animals were highly interested in a game with a ball which frequently took precedence over their desire to eat, and therefore a procedure was developed which was constructed on the game activity of the dolphins. The experiments demonstrated clearly the ability of the animals to select a three-dimensional figure in which the ball could be placed over a two-dimensional figure. The study provides the basis for considering that dolphins can without preliminary training construct a behavior program the basis for which is the capacity to operate with the empirical dimensionality of figures.
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KRUSHINSKIY, L. V., et al., Doklady Akademii Nauk SSSR, Vol 204, No 3, 1972,
pp 755-758

From this it can be concluded that the dolphins have a well-developed elementary reasoning ability.

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DASHEVSKIY, B.A.

Biology

JPRS 57293

15 October 1972

UDC 612.621.1

A STUDY OF THE COMPLEX FORM OF BEHAVIOR OF DOLPHINS
TRISTOPS TRUNCATUS (MONTAGU)

[Article by B.V. Krushinsky, B.A. Dashovsky, N.L. Krushinskaya and L.I. Dmitriyeva, Moscow State University Institute of Zoology and Institute of Development Biology of the Academy of Sciences USSR; Moscow, Zhurnal Vostochnoy Yevropy, 1972, No 4, 1972, submitted 13 March 1971, pp 718-725]

Dolphins are, at present, the subject of diverse and numerous investigations. The behavior of the bottle-nosed dolphin attracts special attention. This interest is caused, first, by the fact that they possess an exceptionally developed brain. According to the series of indexes of the brain worked out by Fortman /26/, the bottle-nosed dolphin stands in second place, after man. Second, dolphins, especially bottle-nosed dolphins, as works by Caldwell /18/ and Lilly /24/ show, are distinguished among mammals by their richness of sound signals, many of which are communication signals. Possibly, judging by Basim's experiments /16/, they have the capacity to exchange these signals intelligently. Third, the complexity and diversity of social relationships, the extremely developed mutual assistance among members of their society, the play activity and the clearly pronounced capacity for imitation may serve as indirect arguments for the examination of dolphins as animals which are characterized by highly developed higher nervous activity.

Thus, the enumerated characteristics of bottle-nosed dolphins' behavior in combination with their highly organized brain, provide a basis for considering that the bottle-nosed dolphin may possess a developed intellect.

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USSR

VORONIN, L., Corresponding Member, Academy of Sciences USSR, Head, Chair of Higher Nervous Activity, Soil Biology Faculty, Moscow State University; Chairman of the Commission, SMIRNOV, M., Candidate of Physicomathematical Sciences, Senior Scientific Associate, Institute of Problems of Information Transmission, Academy of Sciences USSR, RATANOVA, T., Candidate Pedagogical Sciences, Senior Scientific Associate, Laboratory of Perception and Sensation, Institute of Psychology, Academy of Pedagogical Sciences, DASHEVSKIY, I., Doctor-Psychiatrist, Psycho-Neurological Dispensary No 2, Moscow, and KNORRE, V., Candidate of Technical Sciences

"Mysterious Phenomenon: Discovery or Error" -- Once More on the Rosa Kuleshova Effect"

Moscow, Literaturnaya Gazeta, No 31, 29 Jul, p 12

Abstract: Optical perception through touch has been discussed and disputed by scientists during the last ten years. The authenticity of the claim of R. A. Kuleshova to be able to distinguish between the colors of objects by touching them has been established. However, it has been impossible to establish experimentally more data on this phenomenon, because it is impossible to obtain a high percentage of correct answers, since simple random selection is also involved. A commission set out to reexamine the case of R. A. Kuleshova.

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VORONIN, L., et al, Literaturnaya Gazeta, No 31, 29 Jul 70, p 12.

tests, only twice did the test subject arrive at the correct answer. Such a result can be expected from anyone. To examine the discrepancy in the results obtained previously and those obtained now, the commission decided to check into the 1963-1964 tests. It was found that when the device switched from one color to the next, a certain noise from the mechanical movement of parts of the device could provide the test person with information about the color shown. In the new test run, all such movements had been eliminated. The commission came to the conclusion that R. A. Kuleshova uses the same methods used by artists who claim that they see "without the help of eyes," using a narrow slit between the lower edge of the band covering the eyes and the nose. The commission believes that, at least today, no special optical sense is exhibited by R. A. Kuleshova. Of the thousands of other such cases claimed, the commission considers it unlikely that any of these do in fact possess the ability of an optical sense activated by touch.

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USSR

VORONIN, L., et al, Literaturnaya Gazeta, No 31, 29 Jul 70, p 12

Another series of tests was run to overcome this disadvantage by excluding the ordinary sense of touch. In the first set of tests a plywood baffle of 1.5 x 1.5 m with openings and sewn-in sleeves for the hands of the person to be tested was used. Seven correct color identifications out of a possible 23 were achieved in the first round, involving pencils and studs of the five prime colors. Subsequent rounds were even less favorable.

In a second test series, the person to be tested had his face covered with opaque material. The objects to be tested were reproductions of paintings. In all experiments in which the sense of sight was carefully excluded, R. A. Kuleshova did not exhibit any unusual faculty.

In a third series of tests, R. A. Kuleshova was blindfolded. In this case, she felt capable of sensing colors and gave correct and accurate answers. She described in detail the subjects on pictures, with accurate indication of colors, and fluently read printed text.

The spectro-anomaloscopic tests run in 1963 and 1964 were repeated. This device is capable of producing monochromatic light of four different colors. In 10
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USSR

UDC 621.398.93

SHCHERBAN', A. N., FURMAN, N. I., PRIMAK, A. V., KOPEIKIN, V. I.,
POKARZHEVSKIY, A. S., MARUSOV, A. G., DASHEVSKIY, L. N., and KHOMYAKOV, A. T.,
Institute of Technical Heat Physics, Acad. Sc. Ukr SSR, Gas Institute, Acad.
Sc. UkrSSR

"Telemetric System for Sanitation-Chemical Control of Air Pollution"

Kiev, Khimicheskaya Tekhnologiya, No 3, (63), May-Jun 72, pp 49-52

Abstract: A complex system is discussed designed to fulfill the following functions: organization of the input operations of the informations from control-determination points (CDP) into the computer memory with wide range of possible changes in the frequency and order of query to CDP; determination of the measurement points with higher pollution and increased frequency of queering the respective recorder; statistical treatment of the information, tabulation or graphing of the results; and analysis of the effectiveness of the utilization of purifying equipment by the change in air pollution in a controlled region.

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USSR

UDC 624.072.04:534.11

DASHEVSKIY, M. A., Moscow

"Radiation of Elastic Waves as a Pulsating Load Moves Along a Tunnel Laid in the Ground"

Podol'sk, Stroitel'naya mekhanika i raschet sooruzheniy, No. 5, 1971, pp 10-13

Abstract: The titled problem arises in designing subway lines or other underground transportation structures close to objects sensitive to vibrations. The objects themselves are not considered in the article. It is pointed out that such vibrations have an effect on people and various precision production processes. As a computational scheme the article assumes a beam of annular cross section (the tunnel) placed in a continuous unbounded elastic medium. The transverse cross section of the tunnel is assumed to be undeformable, i.e., the transverse cross sections of the beam are displaced in the elastic medium as an absolutely rigid body. A load moves along the tunnel which varies in time with a frequency ω following some harmonic law; along the axis of the tunnel the load is periodic with period $2l$. The load is uniformly distributed on a segment $2d$ within the limits $2l$ and is absent on the remaining segment. The solution of the problem was constructed in the form of a series in terms of

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USSR

DASHEVSKIY, M. A., *Stroitel'naya mekhanika i raschet sooruzheniy*, No. 5, 1971, pp 10-13

coordinates coinciding with the axis of the tunnel for the potentials ϕ , ψ_1 and ψ_2 . The displacements of the tunnel and the stresses acting at the contact of the tunnel and the continuous elastic medium are expressed in terms of these potentials. An example is worked out for radiation of waves from a cavity reinforced with a concrete shell using realistic parameters for the structure, the elastic medium and the load.

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UDC 539.3:534.231.1

DASHEVSKIY, M. A.

"Radiation and Reflection of Elastic Waves by Reinforced Cavities in a Continuous Elastic Medium Under the Motion of a Pulsating Load"

Tr. TsNII stroit. konstruktsiy (Works of the Central Scientific Research Institute of Structural Parts), 1971, No. 17, pp 91-115 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6V77)

Translation: The problem of the excitation of waves in an elastic medium by a harmonic load moving along a cavity is considered in a moving coordinate system. Errors contained in an article by the author are corrected (see Collection Dinamika sooruzheniya, Moscow, Stroyizdat, 1968, pp 123-132 -- RZhMekh, 1968, 12V262). The solution of the wave equations are sought in the form of infinite double trigonometric series containing cylindrical functions and unknown coefficients. Systems of algebraic equations are given to determine the latter. Diffraction of elastic waves emitted by one cavity on another cavity reinforced by a cylindrical shell of medium thickness is discussed.

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DASHEVSKIY, M. A., Tr. TsNII stroit. konstruktsiy, 1971, No. 17, pp 91-115

The resulting wave field is described by incident and reflected potentials. Equality of displacements of the elastic medium and shell is observed along the contour of the shell. It is noted that these solutions can be applied in dynamics calculations involved in the designing of the subway. 5 ref.
V. M. Seymov.

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DASHEVSKIY, M. YA.

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VI-2. STUDY OF THE GROWTH PROCESS OF STRONGLY ALLOYED GALLIUM ARSENIDE CRYSTALS

[Article by M. Ya. Dashkevich, L. N. Kolobrodov, V. A. Suslina, Moscow; Novosibirsk, 111 St. Petersburg, 12-17 June, 1977, p. 69]

1. A study was made of the problems of obtaining single crystals strongly alloyed with donor additives and dendrites of semiconducting compounds of the Al_{1-x}Ga_xAs type, including the problem of obtaining crystals with maximum electron concentration.

2. Single crystals of gallium arsenide were obtained with an electron concentration of $2 \cdot 10^{19} \text{ cm}^{-3}$. The gallium arsenide dendrites alloyed with Al_{1-x}Ga_xAs with an electron concentration of $1.9 \cdot 10^{19} \text{ cm}^{-3}$ (300°K) and $2.4 \cdot 10^{19} \text{ cm}^{-3}$ (77°K) and alloyed with selenium with an electron concentration of $3.9 \cdot 10^{19} \text{ cm}^{-3}$ (300°K) and $9.6 \cdot 10^{19} \text{ cm}^{-3}$ (77°K) were obtained. In the work of other authors which the greatest electron concentration was $1.2 \cdot 10^{19} \text{ cm}^{-3}$ (300°K).

3. A procedure is presented for obtaining single crystals strongly alloyed with selenium and tellurium and gallium arsenide dendrites from melts of stoichiometric and nonstoichiometric compositions. A model is proposed of the entry of atoms of VI b elements into the lattice of Al_{1-x}Ga_xAs compounds based on an investigation of the phase equilibrium in the Al_{1-x}Ga_xAs system, the degree of deviation of the crystallized phase from the stoichiometric composition and the possible structure of the melt (solution).

USSR

UDC 546.682'86:548.55

D
DASHEVSKIY, M. YA., and OKUN', L. S., Moscow Institute of Steel and Alloys, Moscow, Ministry of Higher and Secondary Specialized Education, RSFSR

"Study of Homogeneity of Strongly Alloyed n-Type InSb Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 739-744

Abstract: The article presents data on the homogeneity of strongly alloyed InSb crystals with an electron concentration of up to $1.5 \cdot 10^{19} \text{ cm}^{-3}$. The single crystals were alloyed with tellurium or indium telluride and grown in the direction $A \langle 111 \rangle$. The electric, chemical and optical homogeneities of the single crystals were studied. The homogeneity was studied in the region of the channel connected with the "face effect" and outside it. It was found that this region, in addition to the previously known laminar (transverse) inhomogeneity, also displays previously unknown longitudinal inhomogeneity in the form of agglomerations of point etch-figures which vertically pierce the single crystal (the so-called "drop effect"). The chemical in-

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USSR

DASHEVSKIY, M. YA., and OKUN', L. S., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 739-744

homogeneity in this region increases with increased tellurium concentration, mainly as a result of the "drop effect." No chemical inhomogeneity was found in the region outside the channel connected with the "face effect." Up to a concentration of $8 \cdot 10^{18} \text{ cm}^{-3}$ (under given growing conditions) this region is electrically more homogeneous, with practically no change in homogeneity with an increase in the tellurium concentration. In InSb single crystals the inhomogeneous distribution of donor additions connected with the "face effect" can be found from transmission curves and quantitatively estimated from the absorption edge shift.

In general, it appears that the production of homogeneous single crystals should be based on the growth of unfaceted single crystals under conditions which are close to equilibrium and which assure the production of single crystals of constant composition.

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USSR

DASHEVSKIY, M. YA., and OKUN', L. S., Izvestiya Akademii Nauk SSSR --
Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 739-744

The authors thank I. P. KAGANOVSKIY for making it possible to
measure the resistivity distribution of the InSb single crystals on
the device created by him, as well as for taking part in the discussion
of the findings; and also thank V. S. IVLEV and I. A. DOLGIKH for their
assistance.

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USSR

UDC 537.311.33

D
DASHEVSKIY, M. YA., and SAKHAROV, B. A., State Scientific Research Institute of the Rare Metals Industry, Moscow Institute of Steel and Alloys

"Some Problems in Studying the Growth Processes of Ribbonlike Dendrites of Semiconductor Substances"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 9, Sep 70, pp 1557-1560

Abstract: The work of Soviet researchers in the field of dendritic crystallization of semiconductors was to a large extent summed up at the All-Union Conference on "Methods for the Preparation of Dendritic Ribbons and Their Properties and Prospects for Their Use in Instruments" (Moscow, 1966), and in the field of the growth of profiled semiconductor single crystals in Trudy Vsesoyuznogo Soveshchaniya po Polucheniyu Monokristallov po Metodu A. V. Stepanova (Proceedings of the All-Union Conference on the Preparation of Single Crystals by the Method of A. V. Stepanov), published in 1968. The present article,

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USSR

DASHEVSKIY, M. YA., and SAKHAROV, B. A., Izvestiya Akademii Nauk SSSR
-- Neorganicheskiye Materialy, Vol 6, No 9, Sep 70, pp 1557-1560

which was reported on in part at the former conference, formulates a number of problems connected with the study of dendritic crystallization processes of semiconductor substances and compounds with the structure of diamond and sphalerite, as well as indicating ways of solving some problems. Several works have studied the growth mechanism of dendrites, resulting in the formulation of the concepts of re-entrant and salient angles. However, the following questions remain unresolved: the structure of the active center of growth and the role of twinning planes in the formation of the active center; the force field created by the active center of growth and the structure of the melt near the active center of growth. One possible avenue for further experimental study of the structure of the active center is to study the initial stages of crystallization processes from the vapor phase of twin structures in given crystallographic directions under conditions of varying supersaturation. Numerous investigations

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DASHEVSKIY, M. YA., and SAKHAROV, B. A., Izvestiya Akademii Nauk SSSR
-- Neorganicheskiye Materialy, Vol 6, No 9, Sep 70, pp 1557-1560

have studied the distribution of impurities between melt and dendrite. However, there is no quantitative description of the distribution processes. This requires a detailed study of the distribution of impurities in each of various regions (the region of the active center of growth, the "trunk" region, the H-branch region, the interbranch region) in relation to growth conditions. Elucidating the character of the distribution of point defects in the volume of a dendrite will make it possible to shed additional light on the mechanism of its growth.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HOMOGENEITY OF STRONGLY DOPED N INDIUM ANTIMONIDE SINGLE CRYSTALS
-U-
AUTHOR--(02)--CASHEVSKIY, M.YA., OKUN, L.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 739-44
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--INDIUM ANTIMONIDE SEMICONDUCTOR, ELECTRON DENSITY, SINGLE
CRYSTAL PROPERTY, CRYSTAL IMPURITY, IMPURITY LEVEL, PARTICLE
DISTRIBUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1212 STEP NO--UR/0363/70/006/004/0739/0744
CIRC ACCESSION NO--AP0124866
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NC--AP0124866

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA WERE OBTAINED CONCERNING THE HOMOGENEITY OF HEAVILY DOPED INSB CRYSTALS WITH ELECTRON CONCNS. SMALLER THAN OR EQUAL TO 1.5×10^{19} CM $PRIME^3$. THERE ARE NO DATA AVAILABLE IN THE LITERATURE ON HOMOGENEITY OF INSB SINGLE CRYSTALS WITH AN ELECTRON CONC. LARGER THAN 5×10^{18} CM $PRIME^3$. THE SINGLE CRYSTALS WERE DOPED WITH TE OR WITH INTE AND WERE GROWN IN THE A (111) DIRECTION. IN THE CHANNEL REGION, ASSOC. WITH THE "FACE EFFECT", BESIDES THE PREVIOUSLY KNOWN LAMELLAR (TRANSVERSE) HETEROGENEITY, LONGITUDINAL HETEROGENEITY WAS ALSO OBSD., IN THE FORM OF CLUSTERS OF POINT ETCH FIGURES PIERCING THE SINGLE CRYSTAL VERTICALLY ("DROP EFFECT"). AT SMALLER THAN OR EQUAL TO 8×10^{18} CM $PRIME^3$ (UNDER GIVEN GROWING CONDITIONS), THE REGION OUTSIDE THE CHANNEL IS ELEC. MORE HOMOGENEOUS, BEING ASSOC. WITH THE "FACE EFFECT", WHEREBY IN THIS REGION THE HOMOGENEITY IS PRACTICALLY CONST. WITH INCREASED TE CONC. THE HETEROGENEOUS DISTRIBUTION OF DONOR ADDNS. IN INSB SINGLE CRYSTALS, ASSOC. WITH THE "FACE EFFECT", CAN BE BROUGHT OUT BY TRANSMISSION CURVES AND CAN BE DETD. QUANT. FROM THE DISPLACEMENT OF THE END OF THE ABSORPTION BAND. FACILITY: MOSK. INST. STALI. SPLAYGV, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 534.2

DREYMAN, N. I., DASHEVSKIY, R. A.

"Investigation of the Nature of Acoustic Vibrations of Binary Alloys Under the Influence of a Mechanical Pulse"

Nauch. tr. vyssh. ucheb. zavedeniy LitSSR. Vibrotekhnika (Scientific Works of Institutions of Higher Education in the Lithuanian SSR. Vibration Engineering), 1971(1972), No 2(15), pp 187-194 (from RZh-Fizika, No 5, May 73, abstract No 5Zh569 by the authors)

Translation: The paper gives the results of theoretical and experimental studies of the rate of damping of acoustic vibrations and the levels of acoustic pressure in plates made from binary alloys of iron with chromium, nickel, and manganese. Acoustic vibrations were excited by a mechanical pulse. A direct proportionality is observed between the rate of damping of acoustic vibrations and internal friction in the binary alloys investigated. The effect of chemical and phase composition on levels of acoustic pressure is determined in frequency bands. A formula is derived for the rate of damping of acoustic vibrations. The limits of applicability of this formula are determined by comparing theoretical and experimental data. Bibliography of eight titles.

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USSR

UDC 539.27

NAUMOV, V. A., ZARIPOV, N. M., DASHEVSKIY, V. G., Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Acad. Sc. USSR, Institute of Element-Organic Compounds, Academy of Sciences USSR

"Electronographic Study of the Molecular Structure of Methyl Dichlorophosphite"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 1, Jan-Feb 71, pp 158-160

Abstract: Tricoordinated phosphorus compounds with directly bound nitrogen and oxygen atoms have much longer P-Cl bonds than PCl_3 . This study centered around molecules with only a single oxygen atom, methyl dichlorophosphite (I) being selected as the model compound. Experimental data obtained showed that the molecular configuration of (I) corresponds to the rotational isomer with $\phi = 170^\circ$. The P-Cl bond length was found to be about 0.02 Å shorter than that of the ethylene chlorophosphite. The value obtained is identical to the P-Cl distance in dimethylamidodichlorophosphite. It is concluded that both the nitrogen and oxygen atoms similarly affect the changes in the P-Cl bond length.

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1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GEOMETRY OF MOLECULES AND ENERGY OF ATOMIZATION. II. HYDROCARBONS
WITH MULTIPLE BONDS -U-
AUTHOR--DASHEVSKIY, V.G. **D**
COUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(3), 489-501
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GEOMETRY, THERMOCHEMICAL PROPERTY, CHEMICAL BONDING,
MATHEMATIC MODEL, HYDROCARBON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/C04 STEP NO--UR/0192/70/011/003/0489/0501
CIRC ACCESSION NO--AP0140264
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140264

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MODEL CONNECTING THE GEOMETRY OF
MOLS. WITH THEIR THERMOCHEM. PROPERTIES WAS GENERATED. FOR HYDROCARBONS
WITH MULTIPLE BONDS, CURVES RELATING THE ENERGIES OF C-C AND C-H BONDS
TO LENGTH WERE OBTAINED. THE BOND. BOND ENERGIES, IN CONJUNCTION WITH
CONFORMATIONAL CALCNS., PERMITTED ACCURATE DETN. OF HEATS OF FORMATION,
ISOMERIZATION, HYDROGENATION, ETC. FACILITY: INST. ELEMENTOORG.
SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

Agriculture

USSR

UDC 632.982

~~DASHEVSKIY~~, V. I., Senior Scientific Associate, KALININ, L. B., TRUNOV, I. A.,
Candidates of Agricultural Sciences, and ZUBOV, P. A., Candidate of Biological
Sciences, VNIISKhSPGA and All-Union Scientific Research Institute of Forestry
and Agroforest Melioration

"Experience in Using Rotary Sprayers in the Aerial Spraying of Upland Oak
Groves"

Moscow, Zashchita Rasteniy, Vol 16, No 11, 1971, pp 34-35

Abstract: Tests were carried out by VNIISKhSPGA on the spraying of upland oak
groves from aircraft using rotary sprayers with an output of toxic chemicals
in the range of 3-20 l./ha. The tests were carried out in the spring before
the opening of leaves on land managed by the Saratov Forestry Administration.
Four removable rotary sprayers are installed under the wings of AN-2M aircraft.
The four streams of aerosol, which has a dispersity corresponding to a droplet
size ≤ 100 micron, join to form a single stream during the flight of the plane.
At air speed of 160 km/hr, a strip 60 m wide is sprayed when the plane flies
at a height of 10 m above the treetops. This compares with a strip width of
40 m for sprayers of the present rod type. At the same output of liquid
(5 l./ha), 383.4 ha/hr could be treated with the new equipment vs. 278.5 ha/hr
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USSR

DASHEVSKIY, V. I., et al., Zashchita Rasteniy, Vol 16, No 11, 1971, pp 34-35

for equipment of the older type. An oil solution of DDT (16%) + gamma-hexachlorocyclohexane (4%), undiluted 40% emulsion concentrates of phosphamide (rogor, Bi-58) and carbophos, and a 30% emulsion concentrate of phosphothion (malathion) were sprayed. As a result of spraying with the new equipment, 99% of gypsy moths, brown-tailed moths, leaf rollers and other insect pests were exterminated. DDT + hexachlorocyclohexane were more effective against insects that live in the open than those that live under cover. In 1971 the Ministry of the Aviation Industry will release the first shipment of serially-produced rotary sprayers for AN-2M planes.

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- 1 -

Superalloys

USSR

UDC 669.1'24'26:669.046.546

DASHEVSKIY, V. YA., and POLYAKOV, A. YU.

"Thermodynamic Properties of Sulfur Diffusions in Molten Fe-Ni-Cr Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 72, pp 46-49

Abstract: A study was made of the thermodynamic properties of sulfur diffusions in molten Fe-Ni-Cr alloys. The addition of 16% Ni to iron at 1600°C does not noticeably affect sulfur diffusions. Additions of chromium to both molten iron and molten Fe-Ni alloys are accompanied by strengthening of the sulfur bonds in the diffusion, caused by the presence of chromium in the metal, and points out the advantage of desulfurization during melting of chromium steels prior to chromium addition.

In the melting of stainless and other chromium steels in an oxygen converter by the method developed at the Institute of Metallurgy imeni A. A. Baykov it is advantageous to complete iron desulfurization during the first oxidizing period of the heat, i.e., prior to charging the converter with ferrochromium carbide. Three figures, 6 bibliographic references, 1 table.
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USSR

UDC 621.373:530.145.6

GOYKHMAN, V. Kh., GOL'DFARB, V. M., DASHKEVICH, I. P., EYLENKRIG, G. S.

"Use of a High-Frequency Plasmatron to Determine the Emittance of Some Gases, and Also for Spectral Analysis of Solutions"

V sb. Primeneniye plazmatrona v spektroskopii (Use of the Plasmatron in Spectroscopy--collection of works), Frunze, "Ilim", 1970, pp 82-87 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D228)

Translation: The emittance of oxygen is measured in the visible region of the spectrum at temperatures of 6,000-9,000°K. It is shown that the spectral distribution of oxygen emission is due chiefly to recombination processes. Preliminary studies are conducted into the use of a high-frequency plasmatron for spectral determination of a number of elements. Three illustrations, bibliography of 31 titles. Resumé.

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- 135 -

1/2 011
UNCLASSIFIED
TITLE--CONDENSED PYRIMIDU HETEROCYCLIC SYSTEMS. 1. REACTION OF
1,2,3,5,6,7,HEXAHYDROPIRAZOLO(1,5,A)PYRIMIDINE,5,7,DIONE WITH AMINES -U-
AUTHOR-(02)-DASHKEVICH, L.B., SAMOLETOV, M.M.
PROCESSING DATE--09OCT70
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSKIL. SOEDIN. 1970, (2), 226-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PRIMARY AMINE, SECONDARY AMINE, CONDENSATION REACTION,
HYDROLYSIS, PYRIMIDINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1192
STEP NO--UR/0409/70/000/002/0226/0227
CIRC ACCESSION NO--AP0054091
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054091

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPODS., EASILY PREPD. BY THE REACTION OF 3,AMINOPYRAZOLINES WITH C SUB3 O SUB2, REACT WITH PRIMARY OR SECONDARY AMINES WITH RING OPENING; THE FORMED MALONYL CHAINS REMAIN ATTACHED TO THE 3,AMINO GROUP AND THE FINAL PRODUCT OF DECOMPN. AND HYDROLYSIS IS A 3,AMINO,2,PYRAZOLINE (I). II WERE PREPD. BY CONDENSING C SUB3 O SUB2 WITH 1,PH DERIV. OF I AND BY REACTING WITH AMINE (R AND M.P. GIVEN): (SHOWN OF MICROFICHE) PIPERIDINO, 192-30DEGREES; MORPHOLINO, 168-9DEGREES; ISO,BU SUB2 N, 162-30DEGREES; PHCH SUB2 NH, 148-50DEGREES; BU SUB2 N, 135-60DEGREES.

UNCLASSIFIED

Microbiology

USSR

UDC 576.851.45.077.3:576.8.073.4

URALEVA, V. S., FETSAYLOVA, O. P., MYASNIKOVA, G. S., DASHKEVICH, L. V., and AZARTSEV, A. N., Rostov-na-Donu Scientific Research Antiplague Institute and Poltavskaya, Yaroslavskaya, and Orlovskaya Oblast Sanitary Epidemiological Stations

"Results Obtained by Means of Fluorescent Antibodies During Investigation of Natural Foci of Tularemia"

Moscow, Laboratornoye Delo, No 1, 1973, pp 57-58

Abstract: Spleen, blood, lymph node, liver, and lung smear prints of 13 infected laboratory mice were treated with luminescent tularemia serum. A large number of brightly luminescent microbes were found in the samples of seven animals. Bacteriological investigations yielded tularemia pathogen from all 13 animals. Luminescent bodies resembling tularemia microbes were also observed in two additional mice infected with Dermacentor pictus ticks. However, no tularemia bacteria were isolated from these animals. It was established that smear prints of internal organs remain suitable for treatment with luminescent serum for up to 6 months if kept in a refrigerator and for up to 3 months if kept at room temperature. The method of contrasting specific luminescence yields good results only if bovine albumin tagged with fluorothiocyanate is used. Albumin tagged with isothiocyanate is ineffective.

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USSR

UDC 612.821.61

DASHKEVICH, O. V., State Central Institute of Physical Culture, Order of Lenin, Moscow

"Experimental Analysis of Conditions Giving Rise to Emotional Stress"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 23, No 3, May/June 73, pp 538-544

Abstract: A problem-solving situation was used to study how levels of emotional stress are affected by motivation and uncertainty in relation to success or failure. The subjects, 150 adult male athletes, were given certain preconceptions regarding the relative difficulty of the problems to be solved. The results showed that the men exhibited greater stress when they successfully solved a difficult problem involving greater uncertainty than when they failed to solve an easier problem involving less uncertainty. Success strengthened motivation, which led to greater stress and choice of more difficult problems. Stress also increased as intermediate goals were achieved, and the subjects approached his long-range goal, or the most difficult problem. Social approval associated with the solution of a difficult problem was an important factor in the setting of the long-range goal. Repeated failure led to decreased motivation and uncertainty, and reduced stress in a number of vegetative functions. When the experience of failure became fixed in the memory, a decrease was also observed in motivation and stress.

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1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SUBSTITUTION ON THE BENZENE RING OF INDOLE. XI. SYNTHESIS OF
SUBSTITUTED 5,NITRO,6,AMINOINDOLINES -U-
AUTHOR-(04)-TERENTYEV, A.P., VINOGRADOVA, YE.V., CHETVERIKOV, V.P.,
DASHKEVICH, S.N.
COUNTRY OF INFO--USSR D
SOURCE--KHIM. GETEROTSIKL. SOEDIN, 1970, (2), 161-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE DERIVATIVE, INDOLE, ORGANIC NITRO COMPOUND, IR SPECTRUM, UV
SPECTRUM, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1093 STEP NO--UR/0409/70/000/002/0161/0163
CIRC ACCESSION NO--AP0104491
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104491

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CF. CA 71: 22110D. I (R PRIME1 EQUALS H, R PRIME2 EQUALS NO SUB2) WAS HEATED WITH EXCESS AMINE TO GIVE I (R PRIME1 EQUALS H) (R PRIME2, PERCENT YIELD, AND M.P. GIVEN): CYCLOHEXYLAMINO, 91, 184.5-5.5DEGREES (ALC.); PIPERIDINO, 80, 103-4DEGREES (HEPTANE); HO(CH SUB2)SUB2 NH, 76.5, 193-4DEGREES (MEOH OR MENO SUB2); BUNH (II) 69, 144-5DEGREES (AQ. MEOH); PHCH SUB2 NH (III), 90, 172.5-3.5DEGREES (ETOH). I (R PRIME1 EQUALS AC, R PRIME2 EQUALS NO SUB2) (IV) (3 G) AND 10 ML BUNH SUB2 WAS HEATED 6 HR AT 78DEGREES TO GIVE 82PERCENT II. IV (3.1 G) AND 15 ML BUNH SUB2 WAS REFLUXED 2 HR TO GIVE 30PERCENT I (R PRIME1 EQUALS AC, R PRIME2 EQUALS BUNH), M. 142-3DEGREES (MEOH). SIMILARLY PREPD. WAS 47.8PERCENT I (R PRIME1 EQUALS AC, R PRIME2 EQUALS PHCH SUB2 NH) (V), M. 221.5-22DEGREES (HCONME SUB2). III (0.1 G) AND 5 ML AC SUB2 O WAS HEATED 2.5 HR TO GIVE 86.5PERCENT V. N SUB2 H SUB4 .H SUB2 O (3 ML) WAS ADDED TO 3 G IV IN 25 ML ETOH TO GIVE 48PERCENT (R PRIME1 EQUALS AC, R PRIME2 EQUALS NHNH SUB2), M. 208-9DEGREES (ISO-PROH). SIMILARLY, 77PERCENT I (R PRIME1 EQUALS H, R PRIME2 EQUALS NHNH SUB2), M. 179-80DEGREES (ETOH), WAS OBTAINED FROM 10 ML N SUB2 H SUB4 .H SUB2 O AFTER 4 HR IN THE PRESENCE OF 0.4 G K SUB2 CO SUB3. UV SPECTRAL DATA WERE GIVEN.

UNCLASSIFIED

USSR

UDC 615.38.014.4

DUDKO, N. Ye., Professor, DASHKEVICH, V. P., ZVERKOVA, A. S., and PYASTA, A. N.,
Kiev Institute of Hematology and Blood Transfusion

"Some Data from Studies of Blood Preserved with TsOLIPK-13 Solution for Different
Periods of Storage"

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 3, 1970, pp 18-20

Abstract: A study was made of morphological and biochemical changes, serological properties and therapeutic effectiveness of blood preserved at high dilution (1:1) with TsOLIPK-13 solution. Indices measured included the amount of erythrocytes and leukocytes, hemoglobin, latent hemolysis, blood pH resistance of erythrocytes and their morphological changes, and blood inorganic phosphorus and sugar content. Tests were conducted on the day the blood was taken, and then on every sixth day until the 30th day of preservation. Twenty series of experiments were conducted, and in all series the results were similar. Serological characteristics of blood stored at 4-6°C were investigated every fifth day. Study of erythrocyte morphological changes showed that erythrocytes almost completely lose the ability to form rouleaux on the sixth storage day. However, the first spherocytes appear only on the 18th day of storage, and on the 30th day comprise 18-25%. Shift in the osmotic resistance of erythrocytes in blood preserved with citric acid occurred, mainly,

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-- DUDKO, N. Ye., et al., Problemy Gematologii i Perelivaniya Krovi, No 3, 1970, pp 18-20

because of minimal resistance. In all series of experiments, the minimal resistance decreased on an average from 0.7 on the day the blood was taken to 0.85 on the 30th day of storage. Traces of latent hemolysis were detected on the 18th day of storage, and by the 30th day hemolysis did not exceed 0.65-0.75%. There were two exceptions where hemolysis on the 30th day was higher than 1%. Blood sugar content gradually decreased during the 30 days of storage. During the first 15 days, this decrease was more intensive than in the latter days. Analysis of inorganic phosphorus content in the blood revealed a gradual 3.5-fold increase with the passage of storage time. This was analogous to blood stored with other preservatives. Results of serological investigations showed that erythrocytes containing antigen A lowered their agglutination activity by the 30th day. The agglutinability of erythrocytes containing agglutinin B dropped much more sharply. A significant decrease in agglutination activity was also noted in erythrocytes containing antigens M and N. Patients of different ages and different medical problems received blood transfusions of this preserved blood at varying intervals, and in various amounts. The blood storage time varied from 8 to 35 days. A therapeutic effect was observed in all patients. There was an improvement in the general condition, increase in hemoglobin content and number of erythrocytes, and cessation of hemorrhage. It was especially effective in cases of third and fourth degree traumatic shock.

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USSR

UDC 632.7+632.95

DASHKEVICH, YE. M.

"Chlorophos Dynamics During Extermination Measures to Control the Colorado Beetle"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Sel'skokhozyaystvennykh Nauk, No 4, 1970, pp 93-96

Abstract: The dynamics of the accumulation and decomposition of chlorophos in potato plantings was studied during 1967-1968 in Minsk and Brest oblasts. Its toxic effects on larvae and imagoes of the Colorado beetle were established.

It was found that the maximum chlorophos content in potato leaves occurs in the first 3-4 days after treatment, and ranges from 74.4 to 76.6% of the amount of insecticide originally applied. Chlorophos treatment effectively controls the Colorado beetle in the period of its mass propagation. Chlorophos is promising from the sanitary and hygienic point of view -- it is rapidly degraded.

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1/3 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PP WAVE DURING ATOMIC BURSTS AND ATTENUATION OF LONGITUDINAL WAVES
IN THE UPPER MANTLE -U-
AUTHOR-(02)-VINNIK, P., DASHKOV, G.G.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 190, NO 6, 1970, PP
1340-1343.
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, NUCLEAR SCIENCE AND
TECHNOLOGY
TOPIC TAGS--LONGITUDINAL WAVE, UNDERGROUND EXPLOSION, NUCLEAR EXPLOSION,
ATTENUATION, UPPER MANTLE, SEISMOGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1636

STEP NO--UR/0020/70/190/006/1340/1343

CIRC ACCESSION NO--AT0135262

UNCLASSIFIED

2/3 021

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0135262

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION THE AMPLITUDES OF PP (LONGITUDINAL) WAVES REFLECTED FROM THE EARTH'S SURFACE AT HALF EPICENTRAL DISTANCE ARE ANALYZED. THE METHOD USED IS DESCRIBED BY THE AUTHORS IN AN EARLIER PAPER (DAN, 184, NO 7, 1969). IT WAS SHOWN THAT THE PROBLEM OF CALIBRATING SEISMIC SOURCES, RELIABLE CALIBRATION OF INSTRUMENTS AND ALLOWANCE FOR THE CONDITIONS UNDER WHICH THEY ARE SET UP CAN BE AVOIDED IF MEASUREMENTS OF THE ABSOLUTE VALUES OF THE AMPLITUDE OF DIFFERENT PHASES OF BODY WAVES ARE REPLACED BY MEASUREMENTS OF THEIR RATIO ON THE SAME SEISMOGRAM. A PECULIARITY OF BODY WAVES IS A GREAT SCATTER OF AMPLITUDES CAUSED BY A NUMBER OF FACTORS. THERE IS BASIS FOR ASSUMING THAT THE AMPLITUDE OF A SEISMIC WAVE AS A RANDOM VALUE HAS A LOG NORMAL DISTRIBUTION. IN THIS CASE ALL THE INFORMATION WHICH CAN BE EXTRACTED FROM OBSERVATIONS IS INCORPORATED IN THE MEAN μ AND THE DISPERSION σ^2 OF THE LOGARITHM OF RATIO OF AMPLITUDES. DUE TO THE SCATTER OF AMPLITUDES THE WAVE WHICH IS OBSERVED IN THE SUBSEQUENT ARRIVALS STANDS OUT ONLY ON A PART OF THE SEISMOGRAMS. HOWEVER, μ AND σ^2 CAN BE FOUND IN THIS CASE AS WELL BY USING THE METHOD WHICH THE AUTHORS DESCRIBE. IN THOSE N CASES WHEN BOTH WAVES ARE DISCRIMINATED, THE PARAMETER β_{SUB1} , THE RATIO OF THEIR AMPLITUDES, IS MEASURED; IN M CASES, WHEN ONE OF THEM DOES NOT STAND OUT AGAINST THE NOISE BACKGROUND, THE PARAMETER α_{SUBJ} THE RATIO OF THE AMPLITUDE OF THE BACKGROUND TO THE AMPLITUDE OF THE DISCRIMINATED WAVE, IS DETERMINED.

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0135262

ABSTRACT/EXTRACT--THE MU AND Q PARAMETERS ARE DETERMINED USING THE FORMULA, SHOWN ON MICROFICHE, WHERE, FORMULA SHOWN ON MICROFICHE; C IS A NORMALIZED CONSTANT. THE MEAN RATIO OF ENERGY FLUX DENSITIES λ PRIME² CAN BE FOUND USING THE FORMULA $2 \text{ PRIME}^2 \text{ EQUALS } \exp 2 (\mu \text{ PLUS } Q \text{ PRIME}^2 \text{ MINUS } 2 Q \text{ PRIME}^2 \text{ SUBP})$, WHERE Q SUBP² IS THE DISPERSION OF THE LOGARITHM OF WAVE AMPLITUDE, GIVEN IN THE DENOMINATOR OF THE RATIO. THE PARAMETER Q SUBP FOR THE LONGITUDINAL WAVE OF UNDERGROUND BURSTS WITH A FREQUENCY OF ABOUT 1 CPS IS ESTIMATED AT 0.3-0.4. THE STUDY WAS BASED ON ANALYSIS OF SEISMOGRAMS OF UNDERGROUND NUCLEAR BURSTS REGISTERED BY SEISMIC STATIONS IN THE USSR. FIGURE 1 SHOWS THE RESULTS OF MEASURING APP-A SUBP; FIG. 2 SHOWS THE FUNCTION (1) FOR DELTA EQUALS 23-37DEGREES. THE RESULTS SUGGEST THAT AT THE BOTTOM OF THE MANTLE THERE IS A ZONE WHICH IS QUITE INHOMOGENEOUS HORIZONTALLY. THE SCATTER OF AMPLITUDES CAN BE REGARDED AS AN INDEX OF THE DEGREE OF HORIZONTAL (LATERAL) INHOMOGENEITY OF THE MEDIUM. COMPARISON OF DATA ON THE SCATTER OF AMPLITUDES OF PP AND PCP WAVES INDICATES THAT THE HORIZONTAL INHOMOGENEITY TO THE DEGREE OF HORIZONTAL INHOMOGENEITY IN THE CRUST AND UPPER MANTLE.

FACILITY: INSTITUTE OF PHYSICS OF THE EARTH.

UNCLASSIFIED

Acc. Nr.:

AP0044031

Ref. Code: 71R0387

JPRS 52052

PcP Wave in Atomic Bursts and Core-Mantle Boundary

(Abstract: "The PcP Wave Accompanying Atomic Bursts and the Nature of the Core-Mantle Discontinuity," by L. P. Vinnik and G. G. Dashkov, Institute of Physics of the Earth; Moscow, Izvestiya Akademii Nauk SSSR, Fizika Zemli, No. 1, 1970, pp. 7-16)

In the analysis of records of atomic bursts registered at Soviet seismic stations it appeared that inexplicably high values of the PcP/P ratio are the result of inadequately correct processing of observations. The scatter of PcP/P ratios for seismograms of atomic bursts was so great that on approximately half the seismograms the PcP wave could not be discriminated at all, whereas on others it was comparable in amplitude with P. A failing in many estimates made of the coefficient of reflection from the surface of the core is that in analysis of observations cases when the PcP wave was so weak that it could not be discriminated on the seismogram were completely ignored. An obvious reason for the observed scatter is the presence of random inhomogeneities in the medium. Unfortunately, little or nothing is known concerning the nature of these inhomogeneities; it can only be postulated that large-scale inhomogeneities do exist. The authors

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propose a method for estimating the mean ratio of densities of the energy fluxes of two waves when one of them is discriminated on only some seismograms. The method is based on the assumption that in cases when a wave is not discriminated its amplitude does not exceed the amplitude of the background. The mean and dispersion of the logarithm of the ratio of amplitudes are estimated using the maximum similarity method. The coefficient of reflection of longitudinal waves at the core-mantle boundary is estimated; this agrees satisfactorily with the observed ratios of the amplitudes of PcP and P waves. An estimate of the dispersion of the logarithm of amplitudes of the PcP wave is also obtained. Presently available data on the dynamics of longitudinal waves reflected from the surface of the core (amplitudes, arrival times and spectra) are analyzed and correlated. It is concluded that the density jump at the boundary of the core is either small or completely absent; the increase in density can occur over a distance of tens or hundreds of kilometers, not at the boundary, which is known due to its reflectivity.

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1/3 017 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--MAGNITUDE METHOD FOR IDENTIFYING UNDERGROUND NUCLEAR BURSTS,
MAGNITUDE METHOD FOR IDENTIFYING UNDERGROUND NUCLEAR EXPLOSIONS -U-
AUTHOR--(04)--PASECHNIK, I.P., DASHKOV, G.G., POLIKARPUVA, L.A.,
GAMBURTSEVA, N.G.
COUNTRY OF INFO--USSR
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SSSR, FIZIKA ZEMLI, NO. 1, 1970, PP. 28-36
DATE PUBLISHED--70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ORDNANCE
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CIRC ACCESSION NO--AP0044043
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0044043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT PRESENT SEISMOLOGISTS KNOW THAT FOR EXPLOSIONS AND EARTHQUAKES THERE IS A DIFFERENT NATURE OF THE EXPERIMENTAL RELATIONSHIPS BETWEEN MAGNITUDES M SUBS, DETERMINED FROM RAYLEIGH SURFACE WAVES, AND THE MAGNITUDES M SUBB DETERMINED FROM BODY WAVES, PRIMARILY LONGITUDINAL P WAVES. FOR SUB SURFACE EXPLOSIONS THE MEAN M SUBS VALUES ARE 1.5-0.5 UNITS LESS THAN FOR EARTHQUAKES WITH EQUAL MAGNITUDES M SUBB. THIS MAGNITUDE CRITERION CAN BE SUCCESSFULLY USED IN DIFFERENTIATING THE RECORDS OF UNDERGROUND EXPLOSIONS AMONG THE NUMEROUS RECORDS OF EARTHQUAKES REGISTERED AT TELESEISMIC DISTANCES IN THE RANGE FROM 30 TO 90 DEGREES (FROM 3,500 TO 10,000 KM). LEADING SEISMOLOGISTS IN THE WESTERN COUNTRIES FEEL THAT IT IS POSSIBLE TO CHECK ON THE OCCURRENCE OF UNDERGROUND NUCLEAR EXPLOSIONS WITHOUT FIELD INSPECTIONS. HOWEVER, THERE IS STILL NO AGREEMENT AMONG SEISMOLOGISTS AS TO THE MINIMUM THRESHOLD MAGNITUDE M SUBS BEGINNING WITH WHICH UNDERGROUND NUCLEAR EXPLOSIONS CAN BE IDENTIFIED. SOME AMERICAN SEISMOLOGISTS FEEL THAT THE MINIMUM M SUBS AT WHICH SUCH EXPLOSIONS CAN BE DETECTED (FOR PERIODS T EQUALS 20 SEC, MAGNIFICATION OF ABOUT 3,000) IS THE MAGNITUDE OF EXPLOSIONS WITH A POWER OF 20-60 KILOTONS IN SOLID ROCK OF THE GRANITE TYPE (M SUBS GREATER THAN OR EQUAL TO 4). SOME AMERICAN, BRITISH AND CANADIAN SEISMOLOGISTS ACCEPT A LESSER POWER (M SUBS EQUALS 3 OR EVEN M SUBS EQUALS 2).

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CIRC ACCESSION NO--AP0044043

ABSTRACT/EXTRACT--HOWEVER, IN THE UNITED STATES, SWEDEN AND ELSEWHERE THE MAGNIFICATION OF LONG PERIOD SEISMOGRAPHS FOR PERIODS T EQUALS 20 SEC HAS BEEN INCREASED TO 100,000 AND THEY HAVE BEEN PLACED IN UNDERGROUND CHAMBERS AND EMPLOY FILTERS IN THE REGION OF PERIODS 3-10 SECONDS. THIS INDICATES THAT A THRESHOLD VALUE M_{SUBS} EQUALS 2 FOR THE REGISTRY OF SURFACE WAVES AT TELESEISMIC DISTANCES IS ALREADY ENTIRELY FEASIBLE. A VALUE M_{SUBS} EQUALS 2 IS OBSERVED FOR UNDERGROUND EXPLOSIONS WITH A POWER OF SEVERAL KILOTONS IN SOLID ROCK. THIS PAPER GIVES DATA ON THE RELATIONSHIP BETWEEN M_{SUBS} AND M_{SUBB} FOR UNDERGROUND NUCLEAR BURSTS AS DETERMINED AT SEISMIC STATIONS IN THE USSR. THE AUTHORS COMPARE THESE RELATIONSHIPS WITH THOSE FOR EARTHQUAKES AND ANALYZE THE POSSIBILITY OF IDENTIFYING UNDERGROUND NUCLEAR BURSTS ON THE BASIS OF THE MAGNITUDE CRITERION. COMPARISON OF EXPRESSIONS OF THE FORM M EQUALS $M(MP)$ FOR EXPLOSIONS AND EARTHQUAKES OBTAINED FROM SOVIET SEISMIC DATA REVEALED THAT FOR BURSTS WITH MP FROM 4.2 TO 6.0 THE M VALUES ARE 1.5-0.5 UNIT(S) OF MAGNITUDE LOWER ON THE M EQUALS $M(MP)$ GRAPHS THAN FOR EARTHQUAKES. THUS, UNDERGROUND NUCLEAR BURSTS CAN BE DETECTED FROM SEISMIC RECORDS WITHOUT ON THE SPOT INSPECTION. FACILITY: INSTITUTE OF PHYSICS OF THE EARTH.

UNCLASSIFIED

USSR

UDC 576.852.215.086.3

DASHKOVA, N. F. and PAVLOVA, I. B., Vladivostok Institute of Epidemiology and Microbiology and Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Electron Microscope Study of the Ultrastructure of Pasteurella pseudotuberculosis of Varying Degrees of Virulence"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 139-141

Abstract: Electron microscope study of ultrathin sections of three Pasteurella pseudotuberculosis strains -- the virulent No 25, completely avirulent No 85/a, and partially attenuated No 26 -- revealed many features typical of other gram-negative bacteria. The cells of the virulent strain were round or elongated with a 3-layer wall, 3-layer cytoplasmatic membrane, barely discernible nucleoid, numerous granules the size of ribosomes, and osmophilic inclusions of unknown nature. The cells of the partially attenuated strain were like the above except that the cytoplasm was less compact and the nucleoid could be readily differentiated, and some were surrounded by a layer of capsular substance. The cells of the avirulent strain were almost twice as long as those of the other two strains. The 1/2

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DASHKOVA, N. F. and PAVLOVA, I. B., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 139-141

walls were tortuous and somewhat attenuated. No osmiophilic inclusions could be found and the nucleoid could be differentiated only with difficulty. Like most gram-negative bacteria, the cells of all three strains divided by simple abstriction to form daughter cells of the same size.

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USSR

UDC 576.852.215.033.3

DASHKOVA, N. F., and SOMOV, G. P., Vladivostok Institute of Epidemiology and Microbiology

"Investigation of the Interaction Between Pseudotuberculosis Pathogen and Cell Cultures"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, pp 103-106

Abstract: Pseudotuberculosis bacteria are able to penetrate cells and proliferate in them. Trypsinized human embryo kidneys and newborn rabbit kidneys are especially sensitive to this pathogen. Three hrs after addition of 1 ml of suspension containing 10^7 - 10^8 bacteria to the cell culture with nutrients, up to 15 microbes are present in the cytoplasm of about 75% of the cells (extracellular bacteria are eliminated through addition of polyvalent pseudotuberculosis bacteriophages). Avirulent bacteria remain in small numbers and do not destroy the host cells. Virulent bacteria multiply rapidly and exert a cytotoxic effect. In 16-18 hrs, the infected cells lose their mitotic activity, the cytoplasm shrinks and large vacuoles form, the nucleus becomes pycnotic (though it is free of the pathogen), and the cells die. In 18-72 hrs, the large

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USSR

DASHKOVA, N. F. and SOMOV, G. P., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, pp 103-106

cytoplasmic vacuoles contain hundreds of bacteria. This cytotoxic action is neutralized by immune sera of people and animals who have had pseudotuberculosis. The method is recommended for differentiating virulent from avirulent strains of pseudotuberculosis bacteria.

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USSR

UDC 576.852.215

SHARAPOVA, T. A. and DASHKOVA, N. F., Vladivostok Institute of Epidemiology and Microbiology

"Microbiological Characteristics of Strains of Pasteurella Pseudotuberculosis Isolated From Patients With Far-Eastern Scarletina-Like Fever in Primorskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, Vol 48, No 6, Jun 71, pp 76-79

Abstract: The widespread prevalence of scarlatina-like fever in Far-Eastern regions of the country and the outbreak of the disease in Leningrad in 1969 prompted a comparative study of the cultural, serological, and biochemical characteristics of the various strains of Pasteurella pseudotuberculosis, the agent of the infection. A total of 173 strains of the microbe isolated from patients in Primorskiy Kray during the years 1967-1969 were studied. A liquid medium for accumulation and a solid medium for differential diagnosis (developed by Serov in 1967-68) were used to isolate the bacteria. Serological tests were conducted, including the agglutination reaction on glass with sera prepared from cultures of five bacterial types: Nos 855 (I), 801 (II), 826 (III), 807 (IV), 810 (V) and local strains Nos 37 and 98 (type I) and six of type (III)). The organisms were grown on agar slak cultures at room

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SHARAPOVA, T. A., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, Vol 48, No 6, Jun 71, pp 76-79

temperature for periods of 20-22 hours. A suspension containing one billion cells per ml was used as an antigen for immunizing rabbits. It was given to the animals in doses of 250 million, 1, 1.5, 2, 5, and ten billion cells at intervals of 5-6 days. Blood was drawn 7-8 days after the final injection and titrated. Biochemical properties of the bacteria were studied at the time of their isolation and after one year's storage at room temperature. It was established that the strains of sero types (I), (III), and (IV) of *P. pseudotuberculosis* are causative agents of scarlatina-like fever. Strains isolated from the patients in Primorskiy Kray do not differ from strains isolated from patients in other regions of the country and abroad. It was concluded that the disease may far more widespread than assumed at present.

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USSR

UDC:621.039.548.343

SKOROV, D. M., DASHKOVSKIY, A. I., ZALUZHNYI, A. G. and STOROZHUK, O. M.

"Installation for Study of the Kinetics of Separation of Gaseous Radioactive Fission Products from Irradiated Materials"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 76-77

Abstract: Recently, the study of the diffusion mobility of inert gases in reactor materials has been intensified, since neutron bombardment causes gaseous fission products to be formed in materials, causing such undesirable phenomena as radiation swelling and embrittlement. The authors suggest an installation for determination of the kinetics of liberation of radioactive gaseous fission products, eliminating the shortcomings of earlier installations (content of other volatile radioactive fission products in addition to inert gases in fuel specimens and the requirement for extremely high purity of helium to prevent oxidation of specimens, altering the kinetics of gas liberation from the specimen) by heating the specimen in a high vacuum with continuous oil-free evacuation of the working volume by high-vacuum pumps and prevention of entry of nongaseous fission products into the trap for inert gas collection.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THE EFFECTIVENESS OF DIFFERENT METHODS OF SPECIFIC DESENSITIZATION
WITH MICROBIAL ALLERGENS -U-
AUTHOR--(02)-CASHTAYANTS, G.A., SIDORENKO, YE.N.
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 4, PP 90-94
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ALLERGIC DISEASE, RESPIRATORY SYSTEM DISEASE, ANTIGEN
CCNTRCL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3C04/C743 STEP NO--UR/C497/70/048/004/0090/0094
CIRC ACCESSION NO--AP0131338
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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131338

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UPON CONFRONTATION OF THE EFFECTIVENESS OF SEVERAL TYPES OF MICROBIAL ANTIGENS IN THE TREATMENT OF BRONCHIAL ASTHMA THE AUTHORS ESTABLISHED THAT CORPUSCULAR ANTIGENS ARE MORE ADVANTAGEOUS THAN ACCELLULAR ANTIGENS. AN APPROXIMATELY SIMILAR PERCENTAGE OF SUCCESSFUL RESULTS WAS OBTAINED WITH AUTOVACCINES, HETEROVACCINES AND COMBINED VACCINES. THE ADVANTAGE OF INTRADERMAL EMPLOYMENT OF MICROBIAL ANTIGENS CONSISTS IN THE SIGNIFICANTLY LESSER QUANTITY OF MICROBIAL BODIES INTRODUCED INTO THE PATIENT'S ORGANISM.

FACILITY: 3-YA KAFEDRA TERAPII KIEV. INSTITUTA USGVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

USER

UDC: 621.3;621.039.667

BOOK

DASHUK, P. N., ZAYENTS, S. L., KOMEL'KOV, V. S. (general editor), KUCHIN-SKIY, G. S., NIKOLAYEVSKAYA, N. N., SHKUROPAT, P. I., SHNEYERSON, G. A.

TEKHNIKA BOL'SHIKH IMPUL'SNYKH TOKOV I MAGNITNYKH POLEY (Technology of High-Current Pulses and Strong Magnetic Fields), Moscow, "Atomizdat", 1970, 472 pp, illus, biblio, 2465 copies printed

The book describes circuits, methods of calculation, characteristics and design of high-power capacitor banks and their principal elements: capacitors, dischargers of various types (vacuum, high-pressure, solid-dielectric), insulation of connectors (busbars, cables), and pulse transformers. Methods are presented for calculation of magnetic fields and inductances in solenoids and conductors. The singularities of operation of the structural elements are considered as well as the behavior of metals in superconducting fields.

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USSR

ANDREYEV, S. I.; BAYKOV, O. G.; DASHUK, P. N. (Leningrad)

"Energy Loss from an Optically Thin Layer of a Xenon Plasma"

Moscow, Teplofizika Vysokikh Temperatur; September-October, 1970; pp 929-33

ABSTRACT: In an experiment the authors determined the power of the losses from a thin annular layer of a xenon plasma heated by a pulse induction discharge in the 12,000-42,000°K temperature range under pressures of 3-20 atmospheres. The power of the losses for one heavy particle is a single-valued function of the temperature and under the conditions of this experiment is related to the radiation. A method was suggested for determining the temperature of the plasma according to data on the electrical power measured at the instant of the maximum temperature of the plasma.

The article includes 6 equations, 3 figures, and 1 table. There are 21 bibliographic references.

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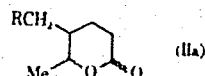
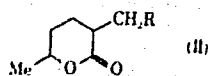
CHEMICAL ABST.

5/70

Ref. Code:

UP0366

110730g Substituted lactones and their reactions. XV. Formation of α -alkyl- δ -methyl- δ -valerolactones from cyanoethyl-alkylacetoacetic esters. Voitsekhovskaya, A. L.; Rudol'fi, T. A.; ~~Dashunin, V. M.~~ (Vses. Nauch.-Issled. Inst. Sin. Natur. Dushistykh. Veshchestv., Vorontsovo, USSR). *Zh. Org. Khim.* 1970, 6(2), 379-84 (Russ). The hydrolysis of $\text{MeCOC}(\text{CH}_2\text{CH}_2\text{CN})(\text{CH}_2\text{R})\text{CO}_2\text{Et}$ (R is Pr, Bu, amyl, or hexyl) gave $\text{MeCOCH}(\text{CH}_2\text{R})\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$ (I) and $\text{MeCOCH}_2\text{CH}_2\text{CH}(\text{CH}_2\text{R})\text{CO}_2\text{H}$ (Ia). The redn. of I-Ia mixt. with Ni/H_2 gave 2 isomeric lactones, sepd. by gas chromatog., which on the basis of ir spectra were assigned. α -Substituted valerolactone (II) or γ -substituted-



valerolactone structures (IIa). Each lactone consists of *cis* and *trans* isomers. Refluxing I or Ia in Ac_2O gave the γ -unsatd. II and IIa analogs, which were also reduced to II and IIa with NiH_4 . CPJR

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USSR

UDC: 621.327.4

Andreyev, S. I., Candidate of Technical Sciences, Baykov, O. G., ~~Dashyk, P. N.,~~
Candidate of Technical Sciences, Zobov, Ye. A., and Sinit syn, N. V.

"A Gigawatt Xenon Flash Lamp"

Optiko-Mekhanicheskaya Promyshlennost', No 5, 1972, pp 19-21.

Abstract: This work presents the results of testing of a flash lamp with an internal quartz tube diameter of 60 mm, wall thickness 3 mm, distance between electrodes 900 mm, filled with xenon to the pressure of 20 mm/Hg. The energy of the lamp is 10^5 j, current transmission time is 10^{-4} sec. A temperature of 2000°K is reached; the radiation spectrum is continuous. Data are presented on the distribution of radiation energy through the spectrum. The discharge is performed under conditions such that the magnetic pressure on the plasma column at the current maximum is near the gas kinetic pressure.

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USSR

UDC 617.755.1:616-058.9:355.3:612.223.3

DASOV, N. Ya., Major, Medical Corps, ZUBAREV, F. G., Lieutenant Colonel, Medical Corps, and RUBTEL', L. T., Lieutenant Colonel, Medical Corps

"Adaptation Disturbances in Soldiers Due to Climatological Changes"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 4, 1973, pp 60-62

Abstract: Physiological and psychological studies were conducted on 2 groups of soldiers, 200 men in all, transported from northern to warmer southern regions, and back, during summer (June-July) and autumn (October-November) months. Summer air temperatures in the northern and southern regions were, respectively, 10 to 15° and 28 to 30°. Autumn temperatures varied from -1 to 5° in the north and from 10 to 12° in the south. In the summer, the mean weight loss after 2 weeks in the south was 1.7 kg. The pulse rate was accelerated throughout the stay in the south, reaching a peak at the end of the 2d week (a mean increase of 9 beats/min); while both systolic and diastolic blood pressures were decreased, the fall in the latter was much more pronounced ($P < 0.001$). On orthostatic tests the mean increase in the pulse rate was 10.6/min ($P < 0.001$). In addition, memory and attention spans of the soldiers improved during their stay in the south. Following return to the northern regions, the weight, pulse, and diastolic pressure did not immediately return

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USSR

DASOV, N. Ya., et al., Voenno-Meditsinskiy Zhurnal, No 4, 1973, pp 60-62

to previous levels. In autumn, the change to the southern climate was accompanied by a mean weight increase of 1.5 kg, which was retained following return to the northern region, as well as an insignificant increase in pulse rate; the mean increase in systolic and diastolic pressure was 4.5 mm Hg ($P < 0.001$). On orthostatic tests pulse frequency increased by 7.6/min. Psychological tests revealed improvements similar to those observed during the summer trip. During the summer excursion the soldiers complained of excessive perspiration, decreased work capacity, loss of appetite, and somnolence in the afternoon. Only individual complaints of this nature occurred in autumn. The functional changes attendant to the transfer to the south were apparently due to the higher temperature in the southern climate, solar radiation, and hypodynamia due to inaction during the train ride. During the trip to the south the soldiers became deacclimatized to the conditions in the north and, for that reason, results of functional tests did not immediately return to former levels. Improvements in memory and attention may have been due to the fact that the soldiers became accustomed to the method of testing. The fact that results of psychological tests did not change on return to the northern regions would suggest that the psyche is relatively resistant to climatological changes.

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USSR

UDC 621.355.2.035.2:620.197.3

OZHIGANOVA, N. N., AGUF, I. A., ~~DASOYAN, M. A.~~, MILYUTIN, N. N.

"Potentiodynamic Study of the Effect of Certain Inhibitors on the Electrochemical Behavior of a Lead Electrode"

Sb. rabot po khim. istochnikam toka. N.-i. akkumulyator. in-t (Collected Works on Chemical Current Sources. Scientific Research Battery Institute), 1971, vyp. 6, 22-27 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 6L242)

Translation: A study was made of the effect of three self-discharge inhibitors: α -naphthol, sulfanol and α -nitroso- β -naphthol on the kinetics of processes taking place on the negative electrode of a lead battery. The potentiometric curves taken in a broad range of potentials of the given electrodes are presented. The theoretical interpretation of these curves permitted some information to be obtained on the mechanism of the effect of the indicated surface-active substance on the cathode and anode behavior in H_2SO_4 .

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USSR

UDC 681.3.06:51

DASTYCH, P.

"Modeling of Certain Queueing Systems"

Tr. Mezhdunar. Simpoziuma po tekhn. i Biol. Probl. upr., 1968. Raspoznavaniye Obrazov. Adaptivn. Sistemy [Works of International Symposium on Technical and Biological Control Problems, 1968. Pattern Recognition. Adaptive Systems], Moscow, Nauka Press, 1971, pp 248-259, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V795 by V. Mikheyev).

Translation: Problems of modeling of queueing systems using analogue and digital computers are studied. The servicing flow is determined by the probability of servicing in it, i.e. the probability that a small time increment is a portion of some interval of time of servicing in the set of realizations of this stream. One characteristic feature of the basic model studied is that the probability of servicing in it may be variable. It is noted that discrete modeling on analogue machines is expedient for the illustration of servicing processes which are not too complex, while more complex problems are better modeled using continuous modeling. The use of the basic model suggested is possible for a number of random processes, for example Markov processes.

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USSR

UDC 617-089.5-031.81-089.15(23.03)

DATKHAYEV, Yu. I., Department of Hospital Surgery No 2, Tadzhik Medical Institute

"Choice of General Anesthesia Under High-Altitude Conditions"

Moscow, Eksperimentalnaya Khirurgiya i Anesteziologiya, No 2, Mar/Apr 71, pp 82-84

Abstract: The duration of general anesthesia of residents of the town of Khorog (2,200 m above sea level), who had undergone surgery for diseases of the organs of the chest and abdominal cavity, obstetric-gynecological, orthopedic diseases, and traumas was studied. The ether content of the blood was not stable (46-127 mg%), indicating a pronounced respiratory breakdown and a considerable drop in the oxygen content of the arterial blood. It was found that ether/air anesthesia without prolonged inhalation of oxygen is very dangerous under high-altitude conditions and cannot be used. Barbiturates such as thiopental often produce apnea under high-altitude conditions. They can be used only when equipment for artificial respiration and an oxygen supply are available. A mixture of nitrous oxide and oxygen at ratios of 3:1 and 4:1 as it is used in the lowlands is ineffective in the mountains. In high-altitude regions, modern ether-oxygen endotracheal narcosis with controlled respiration can be widely used since it improves gas metabolism and haemodynamics, thereby lowering the risk of hypoxia.

1/1

USSR

UDC: 681.2:519.27

DATIASHVILI, G. V., SORDIYA, Kh. R.

"Method of Rapid Estimation of the Normalized Autocorrelation Function with Slight A Priori Measurement Information"

Moscow, Metrologiya, No 1, 1973, pp 30-33.

Abstract: An algorithm is studied for digital processing of centered random processes in real time, produced on the basis of the theory of random excursions. It is demonstrated that the algorithm suggested is most effective in those cases where the volume of a priori information concerning the random process being studied is slight.

1/1

USSR

UDC 621.382.3

FEDOTOV, Ya. A., MARTIROSOV, I. M., DATIYEV, K. M., and KUZNETSOV, Yu. A.

"Avalanche-Drift Diode With a Heterojunction"

Leningrad, Fizika i tekhnika poluprovodnikov, vol. 5, No. 8, 1971, pp 1671-1672

Abstract: In the course of work on avalanche-drift diodes with heterojunctions of Ge-GaAs, specimens were obtained in which the generation of UHF oscillations was observed. Heterojunctions with a p-n-n⁺ structure were obtained by growing layers of p-type germanium alloyed with gallium, the layer thickness being 7 microns, with an acceptor impurity of about $1 \cdot 10^{16}/\text{cm}^3$, on n-type GaAs epitaxial film, 6 microns thick with a donor impurity concentration of about $6 \cdot 10^{15}/\text{cm}^3$, grown on an n substrate with a resistivity of 0.001 ohm cm. The power supplied to the load in the oscillations amounted to 40-120 mw per pulse at a frequency of 11 GHz. The volt-ampere characteristic of an AV-15 diode, belonging to this class of device, is given. The authors are associated with the Moscow Steel and Alloy Institute.

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USSR

UDC 661.143

DATSENKO, A. M., GURETSKAYA, Z. I., BUNDEL', A. A.

"Discovery of the Peculiarities in the Composition and Structure of Sulfide Luminophors for Color Kinescopes Capable of Affecting their Strength when Manufacturing a Mosaic Screen"

Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva (Works of the Moscow Chemical Technology Institute imeni D. I. Medeleev), 1972, vyp. 71, pp 85-87 (from RZh-Khimiya, No 5(II), 1973, Abstract No 5L208)

Translation: A study was made of the causes of the 40-50% reduction in brightness of K-74 (a solid solution of ZnS. CdS: Ag) and K-75 (ZnS:Ag) luminescent compounds when depositing these compounds on the screens of color television kinescopes. The effect of the magnitude of the heat resistance, the chemical composition and the structure on the reduction in brightness of the glow of the compounds was determined. With a CdS content in the sulfide compound of <37%, the decrease in brightness was primarily caused by the solution of the Fe energy dissipator; for high CdS concentrations this reduction was caused primarily by the decay phenomena. The treatment of the screen surface with K silicate used at the plants has an inhibiting effect on the decay processes, but the decay without PVS

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USSR

DATSENKO, A. M., et al., Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, 1972, vyp. 71, pp 85-87

[polyvinyl alcohol?] proceeds appreciably farther than without treatment by K silicate. The surface microstructure of the luminescent compound differs sharply even within the limits of one batch of the compound. The surface state of the individual microcrystals also differs sharply. The incompleteness of homogenization of the solid solutions of the luminescent compounds is noted. The removal of the PVS when heating the compounds at 430° is a complex process with competing reactions: the formation of low-molecular volatile materials and the formation of strongly carburized films.

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USSR

UDC 615.361.419.014.41

PUSHKAR', N. S., OBOZNAYA, E. I., SHAKHBAZOV, V. G., DATSENKO, B. M., and ITKIN, Yu. A., Ukrainian Institute of Advanced Training of Physicians, Ministry of Health USSR, Kharkov

"The Effect of Polyethylene Oxide on Myelokaryocyte Respiration After the Freezing of Bone Marrow to -196°C "

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 4, 1971, pp 52-54

Abstract: The effect of freezing on the intensity of oxygen uptake by bone marrow cells from cancer patients and healthy persons was studied in relation to the rate of freezing to -196°C and the type of cryophylactic agent used (glycerin, DMSO, and the newly developed polyethylene oxide). Myelokaryocytes from healthy persons take up oxygen much more rapidly than those from cancer patients. The addition of polyethylene oxide to a suspension of the cells before freezing had little effect on oxygen uptake, whereas the addition of DMSO or glycerin depressed it sharply. Two-stage freezing (at the rate of $1^{\circ}/\text{min}$ to -15° and then at the rate of either 300° or $10^{\circ}/\text{min}$ to -196°) was more effective in protecting the cells than single-stage freezing (from 0 to -196° at the rate of either $300^{\circ}\text{C}/\text{min}$ or $10^{\circ}\text{C}/\text{min}$). Bone marrow frozen with polyethylene oxide has already successfully undergone clinical trials.

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Hematology

USSR

UDC: 615.361.419.014.413

DATSENKO, B. M., BULATOVA, R. F., PUSHKAR', N. S., ITKIN, Yu. A., KOGAN, V. S.,
and KOZ'MIN, Yu. V., Ukrainian Institute for the Advanced Training of Physicians,
Ministry of Health USSR, and Physico-technical Institute, Academy of Sciences
Ukrainian SSR, Kharkov

"Mechanism of the Protective Action of Polyethylene Oxide on Bone Marrow Cells
Freezing to -196°C "

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11, Nov 70, pp 32-37

Abstract: X-ray diffraction analysis and low-temperature crystallography showed
that little polyethylene (as compared to glycerin) penetrates bone marrow cells
frozen to -196°C . The bulk of the substance remains outside, forming a coating
around the cells, and hence exerts a protective effect. Electron microscope
study of erythrocytes present in the frozen bone marrow cells revealed many ca-
vities formed as a result of intracellular crystallization. The size of the
pieces of ice increased from the periphery to the center, where a large ice crys-
tals were sometimes found. In the light of the suggested mechanism of action of

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USSR

DATSENKO, B. M., et al, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11,
Nov 70, pp 32-37

polyethylene oxide, the increased number of crystals in the erythrocytes from
the periphery to the center is considered to be the result of a quantitative
decrease in the cryophylactic agent in the cells in the same direction.

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USSR

UDC 577.1:615.7/9

DATSENKO. I. I.

"Metabolic Reactions in the Organism Under Conditions of Chronic Carbon Monoxide Intoxication"

Faktory vneshn. sredy i ikh znacheniye dlya zdorov'ya naseleniya. Resp. mezhved. sb. (Ambient Factors and Their Significance for Public Health. Republic Interdepartmental Collection), 1970, vyp. 2, pp 146-149 (from RZh-Biologicheskaya Khimiya, No 4, 10 Mar 71, Abstract No 5F2054)

Translation: Rats and guinea pigs were subjected to daily carbon monoxide poisoning for 1.5-3 months with a concentration of 0.009-0.018, 0.030-0.040 and 0.08-0.1 mg/liter in the air of the chamber. There were no changes in hematological indices; the cholesterol concentration in the blood increased in the earliest stages of poisoning at low carbon monoxide concentrations. Carboxyhemoglobin was noted in the blood. The author concludes that carbon monoxide promotes arteriosclerosis.

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DATSENKO, L.I.

SPRS 57003

6-73

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XIV-11. STUDY OF THE STRUCTURAL PERFECTION OF THE HETEROEPITAXIAL Si-Ge SYSTEM
[Article by V. L. Yastevskaya, L. I. Datsenko, Ye. B. Kiselevich, L. V. Prok-
oshina, A. V. Stebnik, Kiev: Izv. Akad. Nauk Ukrain. SSR, Ser. Fiz.-Mat. Nauki, 1972, No. 1, p. 103]
[Soviet Journal of Physics, 1972, No. 1, p. 103]

The structural perfection of the heteroepitaxial Si-Ge system obtained by the method of sublimation of Si on the Ge substrate in the temperature range of 600-850° C at a growth rate of 0.1 microns/minute was investigated using the x-ray copographic diffraction and metallographic methods. It was demonstrated that the degree of structural perfection of Si films on Ge is lower than the Ge film on Si. A sharp increase in the halfwidth of the rock-
ing curves of the double crystal spectrometer obtained from the film and the substrate was detected by comparison with the values characteristic of ideal crystals. The x-ray copography, however, did not reveal clear fragmentary structure characteristic of Ge film grown on Si substrate. The cause of this phenomenon is discussed.

Catalysis

USSR

UDC 541.128

LAVRENKO, V. A., CHEKHOVSKIY, A. A., and DATSENKO, L. I.

"Effect of Crystallographic Orientation of the Surface of Single Crystals of Silicon Dioxide and Magnesium Oxide on the Recombination Rate of Hydrogen Atoms"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLV, No 5, 1971, pp 1124-1127

Abstract: An experimental study was made of the recombination rate coefficients of hydrogen atoms on the [100], [111], and [110] faces of single crystals of MgO and [0001], 1120], and [1010] faces of single crystals of SiO₂. The experimental procedure is described, and the data for the probability of recombination of hydrogen atoms on the given surfaces are tabulated. The surface activity depends on the crystallographic orientation and is determined by the crystal chemical characteristics of the surfaces. Admixtures contained in a single crystal of MgO can have no significant effect on the recombination reaction rate.

Good agreement between the data presented here and those obtained by other authors is noted and the results are generalized as proof that not only in
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USSR

LAVRENKO, V. A., et al., Zhurnal Fizicheskoy Khimii, Vol XLV, No 5, 1971, pp 1124-1127

the case of crystals of standard semiconductors, but also in the case of nonconducting oxides the surface orientation can play a significant role in adsorption and heterogeneous catalysis.

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- 6 -

Acc. Nr: **AP 0047683** Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code: **4R0032**

104772f Determination of the size of a deformed layer in germanium after polishing. Vishnevskii, A. S.; Datsenko, L. I.; Firshtein, L. A. (Inst. Sverkhtrudvkh Mater., Kiev, USSR). *Zavod. Lab.* 1970, 36(1), 33-5 (Russ.). A double crystal spectrometer is used to follow the broadening of the swaying curve of the hkl reflection which is responsible for the existence of nonorientated mosaic blocks. The 28-30 half-width of the reflection curve [111], obsd. on a surface treated many times with an etching agent, is taken as the criterion for the absence of a deformed layer. In order to decrease the exptl. error due to non-coincidence of the at. plane with that of the sample, an adjustment of the sample crystal is made which consists in giving the crystal such a position that the angle θ between the incident ray direction and that of the sample plane is $\theta = \theta_B + \alpha$, where θ_B is the tabular value of the Bragg angle for the given reflection and α the max. angle of deflection of the sample plane from the at. one. The dependence of the half-width of the [111] reflection on the deformed layer thickness found during stepwise etching is presented.

J. Hejduk

REEL/FRAME
19791259

1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INVESTIGATION OF THE CRYSTAL PERFECTION BY THE SINGLE CRYSTAL
SPECTROMETER IN THE LAUE DIFFRACTION CASE -U-
AUTHOR--(04)-SKOROKHOD, M.YA., DATSENKO, L.I., GUREYEV, A.N., VASILKOVSKIY,
A.S.
COUNTRY OF INFO--USSR
SOURCE--UKRAYIN. FIZ. ZH. (USSR), VOL. 15, NO. 5, P. 789-98 (MAY 1970)
DATE PUBLISHED---MAY70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CRYSTAL DIFFRACTION SPECTROMETER, SINGLE CRYSTAL PROPERTY,
CRYSTAL DEFECT, X RAY SPECTRUM, ABSORPTION EDGE, RADIATION INTENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1798 STEP NO--UR/0185/70/015/005/0789/0797
CIRC ACCESSION NO--AP0133703
UNCLASSIFIED

2/2 027

CIRC ACCESSION NO--AP0133703

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF THE INVESTIGATIONS OF THE CRYSTAL PERFECTION BY A SINGLE CRYSTAL SPECTROMETER WAS SHOWN. THE DIFFERENT FACTORS WHICH CAN INFLUENCE THE MEASURED INTENSITIES ARE DISCUSSED. A GOOD AGREEMENT BETWEEN THE INTEGRAL FACTORS OF THE ANOMALOUS TRANSMISSION PI SUBI MEASURED BY A SINGLE AND DOUBLE CRYSTAL SPECTROMETER WAS OBTAINED. THESE MEASUREMENTS WERE CARRIED OUT ON THE CHARACTERISTIC AND CONTINUOUS X RAY SPECTRA. THE VALUES CHI SUBIH1 AND CHI SUBIH2 WHICH ARE RELATED TO THE SHORT AND LONG WAVE REGIONS OF K EDGE OF ABSORPTION RESPECTIVELY, WERE FOUND FROM THE LOGARITHM DEPENDENCE OF THE INTENSITY JUMPS UPON THE CRYSTAL THICKNESS. THESE VALUES ARE IN GOOD AGREEMENT WITH THE DATA OBTAINED FROM THE MEASUREMENTS PI SUBI MADE BY THE DOUBLE CRYSTAL SPECTROMETER.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF IMPURITY PRECIPITATIONS ON THE ANOMALOUS X RAY
TRANSMISSION IN HEAVILY ARSENIC DOPED GERMANIUM -U-
AUTHOR-(03)-EFIMOV, O.N., SHEIKHET, E.G., DATSENKO, L.I.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 38, NR 1, PP 489-498

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM SEMICONDUCTOR, CRYSTAL DISLOCATION, X RADIATION,
WAVE PROPAGATION, SEMICONDUCTOR IMPURITY, ARSENIC, SOLID SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/1067

STEP NO--GE/0030/70/Q38/001/0489/0498

CIRC ACCESSION NO--AP0107576

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DATA OF QUANTITATIVE STUDIES OF THE INTEGRAL CHARACTERISTICS OF ANOMALOUS X RAY TRANSMISSION ARE GIVEN FOR GERMANIUM WITH DIFFERENT DISLOCATION DENSITIES, DOPED WITH ARSENIC UP TO A CONCENTRATION OF APPROXIMATELY EQUAL TO 4 TIMES 10^{19} AT-CM PRIME NEGATIVES AT VARIOUS STAGES OF EXISTENCE AND DECOMPOSITION OF THE SOLID SOLUTION. THE STATE OF SOLID SOLUTION WAS CONTROLLED BY ELECTROPHYSICAL MEASUREMENTS AND X RAY TOPOGRAPHS (BORRMANN'S METHOD). ON THE BASIS OF THE RESULTS OBTAINED SOME CONCLUSIONS ARE DRAWN ABOUT THE CHARACTER OF THE DISTURBANCES GENERATED BY THE ABOVE MENTIONED DECOMPOSITION OF THE SOLID SOLUTION. PARTICULARITIES OF THE SOLUTION BEHAVIOUR ARE CONSIDERED WHEN THE CONCENTRATION OF ARSENIC IS NEAR THE LIMIT. FACILITY: INSTITUTE OF SEMICONDUCTORS, ACADEMY OF SCIENCES OF THE USSR, LENINGRAD. FACILITY-- INSTITUTE OF SEMICONDUCTORS, ACADEMY OF SCIENCES OF THE UKRAINIAN SSR, KIEV.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MOLECULAR NITROGEN FIXATION BY ACELLULAR EXTRACTS OBTAINED FROM
BACTERIODS OF LUPINUS LUTEUS MODULES -U-
AUTHOR--(04)-MANORIK, A.V., STARCHENKOV, E.P., DATSENKO, V.K., YAKOVLEVA,
N.S.
COUNTRY OF INFO--USSR
SOURCE--ADOV. AKAD. NAUK UKR. RSR, SER. B 1970, 32(2), 177-82
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEGUME CROP, PLANT PHYSIOLOGY, NITROGEN ISOTOPE, BACTERIA,
CHEMICAL LABELLING, ADENOSINE TRIPHOSPHATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1220 STEP NO--BU/0442/70/032/002/0177/0182
CIRC ACCESSION NO--AT0134894
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0134894

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPLYING PRIME15 N TECHNIQUES, CRUDE ACELLULAR AND BIO GEL EXTS. OF BACTERIODS OF L. LUTEUS NODULES SHOWED A N FIXATION OF 244.4 MU G OF N PER MIN PER MG OF PROTEIN, PROVIDED THE REACTION MIXT. CONTAINS AN EXCESS OF AN ATP REGENERATING SYSTEM, MG PRIMEPOSITIVE POSITIVE, AND NA SUB2 S SUB2 O SUB4 IN THE PRESENCE OF POLYCAPROLACTAM (I). WHEN PHENOL COMPOS. ARE NOT ELIMINATED FROM EXTS. THE FIXING ABILITY DECREASES TO 27 MU G OF N PER MIN PER MG OF PROTEIN, AND STOPS ALTOGETHER WHEN I IS REVOED. THE POS. N FIXATION BY A CRUDE EXT. IN THE PRESENCE OF CREATINE (CR) AND CREATINE PHOSPHOKINASE MAY BE EXPLAINED BY THE REACTION OF ATP WITH CREATINE WITH THE FORMATION OF CREATINE PHOSPHATE (CRP) AND ADP. AS A RESULT, ADP WHICH IS AN INHIBITOR OF N FIXATION, IS NOT ACCUMULATED IN THE REACTION MIXT. WITH CR AND CRP IN THE REACTIONS MIXT., N FIXATION IS DOUBLED.

FACILITY: INST. FIZIOL. ROSLIN, KIEV, USSR.

UNCLASSIFIED